

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NE-01-AD; Amendment 39-13422; AD 2004-01-08]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney JT9D-7R4 Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that applies to Pratt & Whitney (PW) JT9D-7R4 series turbofan engines. This amendment requires on JT9D-7R4 series turbofan engines with steel fan cases, replacement of the existing one-piece fan case shield with a thicker four-piece fan case shield and would add four fan case shield supports. This amendment results from two uncontained full fan blade fracture events that resulted in penetration of the steel fan case and fan case shield. We are issuing this AD to prevent uncontained fan blade failures, resulting in damage to the airplane.

DATES: Effective February 10, 2004.

ADDRESSES: The service information referenced in this AD may be obtained from Pratt & Whitney, 400 Main St., East Hartford, CT 06108; telephone (860) 565-7750; fax (860) 565-1605. This information may be examined, by appointment, at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT: Keith Lardie, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7189; fax (781) 238-7199.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that applies to PW JT9D-7R4 series turbofan engines was published in the Federal Register on April 23, 2003 (68 FR 19962). That action proposed to require on JT9D-7R4 series turbofan engines with steel fan cases, replacement of the existing one-piece fan case shield with a thicker four-piece fan case shield and would add four fan case shield supports.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Request To Update Material Cost

Two commenters state that the material cost in the economic analysis published with the proposed AD is incorrect. They note that since the notice of proposed rulemaking (NPRM) was issued, a subsequent service bulletin (SB) revision was issued that quoted a higher price for the containment shield kit. The revised SB also included a reduction in the number of work hours to do the replacements.

The FAA agrees. We have revised the economic analysis in this AD.

Request To Update Service Bulletin Revision and Date

One commenter, the manufacturer, recommends that the four-piece fan cases, part numbers (P/Ns) 815132 and 821545, be installed using the information found in PW SB JT9D-7R4-72-583, Revision 1, and PW SB JT9D-7R4-72-584, Revision 1, both dated September 10, 2003, instead of the original release of each SB, dated December 12, 2002. The manufacturer states that the SB revisions require changing the position of the shield attachment hardware and the assembly sequence to provide a better fit between the washer and the containment shield bolthole.

The FAA agrees that these SB revisions enhance the installation process. Removal of the old containment shield, and proper installation of the new containment shield is the purpose of this AD. Since we are referencing the SBs for additional information only and are not incorporating those documents by reference, we have removed the date from the references in paragraphs (a), (b), and (c) in the AD. Removing the dates will allow the operator to refer to the latest revisions of the SBs.

Request To Comply at Next Heavy Maintenance vs. Repair

One commenter believes the intent of this AD is to incorporate the new fan case shield assembly at the next heavy maintenance, which would involve separation of the "B" flange. During a less invasive visit (repair), the containment shields are not normally accessed and would cause an incremental cost increase.

The FAA agrees. The purpose of this AD is to replace the containment shield the next time the fan case module is accessed, which would involve the separation of the "B" flange. The FAA has changed the compliance time to reference "shop visit" and added Paragraph (d) to provide a definition of "shop visit" that makes this intent clear. As a result, the remaining paragraphs are changed from (d) and (e) to (d), (e), (f), and (g).

Request for Clarification of Engine Overhaul vs. Shop Visit

The same commenter expresses a concern about the ambiguous definition of engine overhaul and suggests that a simplified clarification might further reduce compliance times. The commenter also requests further clarification that the intent is a shop visit for heavy maintenance or overhaul.

The FAA agrees. Since the AD intends to mandate the replacement of the containment shield during the next time the engine is serviced for an in-shop overhaul, and not during on-wing replacement, the compliance statement is revised by replacing "engine overhaul where access to the fan case aft containment area is available" with "shop visit". The definition of shop visit is added in a new paragraph (d) of the AD. As a result, the remaining paragraphs are changed from (d) and (e) to (d), (e), (f), and (g).

Request To Return to Pre-Compliance Build Standard To Utilize Spare Parts

The same commenter asks that the AD include a provision to allow the removal of the four-piece fan case shield for those engines on which the improved containment has already been installed. The commenter seeks this provision to use up inventoried spare parts, but acknowledges that the final compliance date of December 31, 2012 must be met.

The FAA disagrees. Compliance with this AD is required at the next shop visit, which is defined as the separation of the B-flange except to replace fan case assemblies for rub strip repairs. Compliance is required at each shop visit. The FAA has included a compliance end-date of December 31, 2012, only to ensure that those engines, if there are any, that do not see a shop visit before that date have the improved containment shields installed. This compliance program establishes an acceptable level of safety based on the FAA's review of the entire fleet's exposure to the described unsafe condition, an analysis that does not contemplate the removal of the required improvements to the containment shield once installed.

Affect on Existing AD 87-23-05R1

Although the FAA proposed that this AD would supersede AD 87-23-05R1, after further review and careful consideration of all the comments received, the FAA has determined to publish this AD as a new AD and leave AD 87-23-05R1 in place. Superseding AD 87-23-05R1 would have had the effect of removing the requirements for installing P/N 802096 on engines with titanium fan case assemblies and for modifying the fan case assemblies by installing ring segments, which are both critical to the safety of the containment shields. Removal of these requirements would not meet the intent of this AD.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Economic Analysis

There are approximately 309 JT9D-7R4 series turbofan engines with steel fan cases, of the affected design in the worldwide fleet. The FAA estimates that 155 engines installed on PW JT9D-7R4 series turbofan engines of U.S. registry would be affected by this AD. The FAA also estimates that it would take approximately 1 work hour per engine to perform the actions, and that the average labor rate is \$65 per work hour. Required parts would cost approximately \$7,600 per engine. Based on these figures, the total cost of the AD to U.S. operators is estimated to be \$1,188,075.

Regulatory Analysis

This final rule does not have federalism implications, as defined in Executive Order 13132, because it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of

the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2004-01-08 Pratt & Whitney: Amendment 39-13422. Docket No. 2003-NE-01-AD.

Applicability: This airworthiness directive (AD) applies to Pratt & Whitney (PW) JT9D-7R4D, -7R4D1, -7R4E, -7R4E1, -7R4E4, -7R4G2, and -7R4H1 turbofan engines with steel fan cases. These engines are installed on, but not limited to, Airbus Industrie A300 and A310, and Boeing 747 and 767 airplanes.

Note 1: This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Compliance with this AD is required at the next shop visit, but no later than December 31, 2012, unless already done.

To prevent uncontained fan blade failures, resulting in damage to the airplane, do the following:

(a) For PW JT9D-7R4D, -7R4D1, -7R4E, -7R4E1, -7R4E4, and -7R4H1 turbofan engines with steel fan cases that have PW service bulletin (SB) 72-312 incorporated, replace fan case shield part number (P/N) 802095 with the four-piece fan case shield and install four fan case shield supports. Information on replacing fan case shields and installing fan case shield supports can be found in PW SB JT9D-7R4-72-583.

(b) For PW JT9D-7R4G2 turbofan engines with steel fan cases that have PW SB 72-88 and PW SB 72-311 incorporated, replace fan case shield P/N 802094 with the four-piece fan case shield and install four fan case shield supports. Information on replacing fan case shields and installing fan case shield supports can be found in Part A of PW SB JT9D-7R4-72-584.

(c) For PW JT9D-7R4G2 turbofan engines with steel fan cases that do not have PW SB 72-88 incorporated, but have PW SB 72-311 incorporated, replace fan case shield P/N 802094 with the four-piece fan case shield and install four fan case shield supports. Information on replacing fan case shields and installing fan case shield supports can be found in Part B of PW SB JT9D-7R4-72-584.

Definitions

(d) For the purpose of this AD, a shop visit is defined as separation of the B-flange during in-shop maintenance. Separation of the B-flange in order to replace fan case assemblies for rub strip repairs is not considered a shop visit.

Alternative Methods of Compliance

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office (ECO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the ECO.

Special Flight Permits

(f) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be done.

Effective Date

(g) This amendment becomes effective on February 10, 2004.

Issued in Burlington, Massachusetts, on December 29, 2003.

Robert E. Guyotte,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 04-45 Filed 1-5-04; 8:45 am]

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